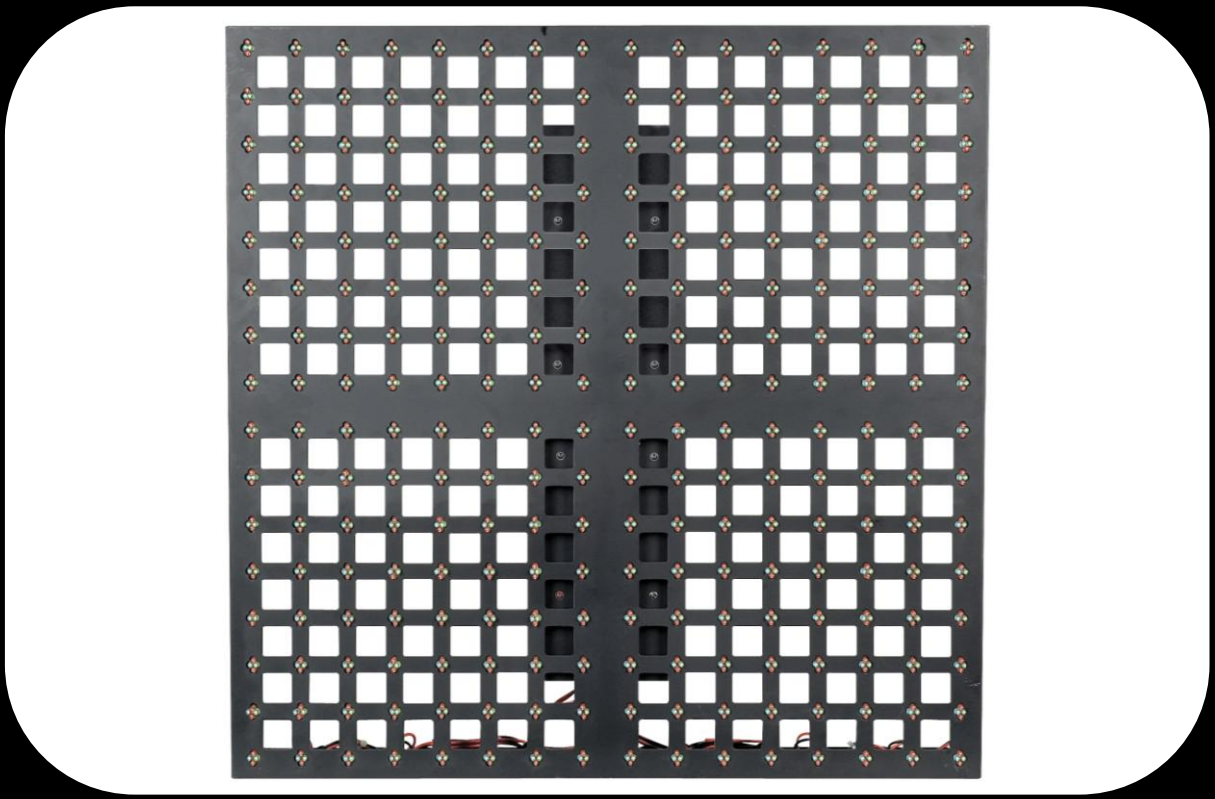
DUTCH MEDIA TOOLS

LED PIXEL MESH 256

ORDERCODE 101151



SHOWELECTRONICS FOR PROFESSIONALS

Congratulations!
You have bought a great, innovative product from DMT.
The DMT LED Pixel Mesh brings excitement to any venue.

You can rely on DMT, for more excellent lighting products.
We design and manufacture professional light equipment for the entertainment industry.
New products are being launched regularly. We work hard to keep you, our customer, satisfied.
For more information: iwant@dutchmediatools.info

You can get some of the best quality, best priced products on the market from DMT.
So next time, turn to DMT for more great lighting equipment.
Always get the best -- with DMT !

Thank you!

DUTCH MEDIA TOOLS

DMT

DMT LED Pixel Mesh™ Product Guide

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WARNING

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

SAFETY INSTRUCTIONS

Every person involved with the installation, operation and maintenance of this device has to:

- be qualified
- follow the instructions of this manual

**CAUTION! Be careful with your operations.
With a dangerous voltage you can suffer
a dangerous electric shock when touching the wires!**

Before your initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Do not open the device and do not modify the device.
- Do not connect this device to a dimmerpack.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Do not switch the device on and off in short intervals.
- Never use the device during thunderstorms, unplug the device immediately.
- Only use device indoor, avoid contact with water or other liquids.
- Avoid flames and do not put close to flammable liquids or gases.
- Only operate the device after having familiarized with its functions.
- Always disconnect power from the mains, when device is not used or before cleaning! Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the device and the power-cord from time to time.
- If the external cable is damaged, it has to be replaced by a qualified technician.
- If device is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your DMT device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your DMT dealer for service.

- The user is responsible for correct positioning and operating of the LED Pixel Mesh. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this device.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- For replacement use fuses of same type and rating only.
- WARRANTY: Till one year after date of purchase.

OPERATING DETERMINATIONS

This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

The maximum ambient temperature t_a = 45°C must never be exceeded.

The relative humidity must not exceed 50 % with an ambient temperature of 45° C.

If this device is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.
Any other operation may lead to dangers like short-circuit, burns, electric shock, lamp explosion, crash etc.

You endanger your own safety and the safety of others!

Improper installation can cause serious damage to people and property !

Connection with the mains

Connect the device to the mains with the power-plug.
Always pay attention, that the right color cable is connected to the right place.

International	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	FASE
N	BLUE	BLACK	SILVER	NUL
⏚	YELLOW/GREEN	GREEN	GREEN	EARTH

Make sure that the device is always connected properly to the earth!

Improper installation can cause serious damage to people and property !

Description of the device

Features

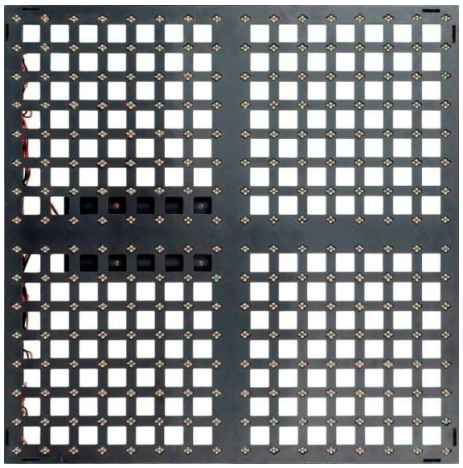
The LED Pixel Mesh is a fabulous LED Lighteffect from DMT.

- Average Lifespan: 50,000~100,000hrs
- Mounting system has rigging points and flexible configurations
- Rated Power: 75W
- Cooling: Direct air convection
- LED/Pixel: 2xRED/1XGREEN/1XBLUE
- Module size: 640mm×640mm×65mm
- Pixel/Unit：16*16
- Pixel Pitch：40mm
- Pixel Density（dot/ m2）：625
- Pixel composition：2R1G1B 4Φ5 oval LED
- Brightness（cd/ m2）：1300
- Optimal viewing distance（m）：60
- Module peak value power（≤W）：75
- Module average power（≤W）：40
- Module weight(kg)：10
- Scanning mode：Static scan
- Viewing angle：120°（60°horizontally and vertically）
- Driven voltage(V)：4.5～5.5
- Gray scale：256 levels respectively
- Frame change speed：≥60（frame/second）
- Control mode：In step with the computer monitor
- Blind spot rate：≤0.0002
- Operating voltage：AC220V±15% 47～64HZ
- Control distance(m)：<130
- Temperature environment：-10℃～50℃
- Humidity environment：10%～90%RH
- Indoor use only

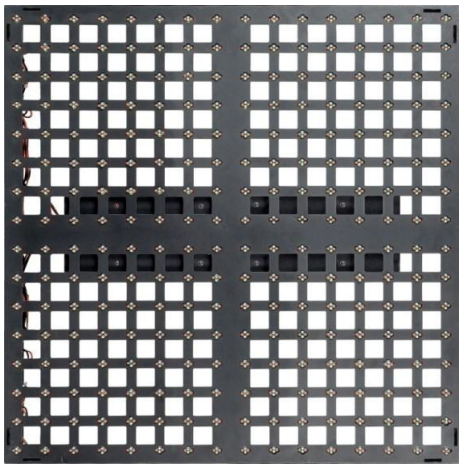
Control

- Software: LEDstudio 8
- System: Windows XP with video card (NOT included)
- Applications: Fixed installations, small or large, interior / advertising /stage
- Works with other manufacturer's software: Arkaos or Sweetlight Timeline

Overview



Pixel Mesh (101150)



Pixel Mesh Controller (101151)

Fig. 1

Overall Requirements

- Windows XP computer with an available PCI slot
- Graphics card with 2x DVI or 1x VGA + 1x DVI
- LED Pixel Mesh Controller (**101151**); 1 controller for every 16 panels wide and 8 panels high

Computer System Requirements

Minimum

Operating system: Windows XP SP2 (Service Pack 2)
Processor: Pentium 200 MHz with at least one free PCI slot
Harddisk: 20 GB 5400 RPM
Memory: 128 MB
Graphic Card: Graphics Card with dual display Mode and DVI output
Note: Only tested with ATI Graphic Card

Recommended

Operating system: Windows XP SP2 (Service Pack 2)
Processor: Pentium 1 GHz or better with at least one free PCI slot
Harddisk: 40 GB 7200 RPM or more
Memory: 512 MB or higher
Graphic Card: Graphics Card with dual display Mode and DVI output

Set Up and Operation

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 230V power, or vice versa.
Always disconnect from electric mains power supply before cleaning or servicing.
Damages caused by non-observance are not subject to warranty.

The LED Pixel Mesh can only be used indoors. The LED Pixel Mesh can be viewed during night-time as well as day-time. Due to the clever mounting system it is easy to setup. The LED Pixel Mesh excellent design allows you to vary the setup in many shapes and sizes.

LED Pixel Mesh Limitations

Note: 1 LED Pixel Mesh Controller (**101151**) for every 16 panels wide and 8 panels high

Horizontal Panels (Left/Right)

Minimum 1 Panel	16 columns of LED clusters or 16 horizontal pixels/lines
Maximum with 8 panels (1 Controller)	128 columns of LED clusters or 128 horizontal pixels/lines

Vertical Panels (UP/Down)

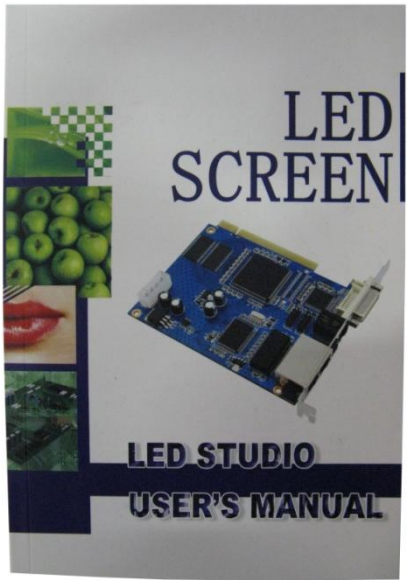
Minimum 1 Panel	16 rows of LED clusters or 16 vertical pixels/lines
Maximum with 16 panels (1 Controller)	256 rows of LED clusters or 256 vertical pixels/lines

Resolution

Minimum 1 Panel	16 X 16 Pixels
Maximum With (1 Controller)	256 X 128 Pixels

1 Panel is 16 by 16 pixels on your PC screen.
So 8 x 6 panels (5,12 x 3,84 meters) = a resolution of 128 x 96 pixels in Windows XP.

Included with the Software Bundle



User manual

PC Sender Card

DVI cable (DVI to DVI)

RS232 to RJ-11 cable

CD with LED Studio 8

Fig. 2

Communication Wire Facture

Cable from Computer to Scan Board 20m

	1	2	3	4	5	6	7	8
INPUT	White/Orange	Orange	White/Green	Blue	White/Blue	Green	White/Brown	Brown
OUTPUT	White/Orange	Orange	White/Green	Blue	White/Blue	Green	White/Brown	Brown

Cable from Scan Board to Mesh Panel 3,5m

	1	2	3	4	5	6	7	8
INPUT	White/Orange	Orange	White/Green	Blue	White/Blue	Green	White/Brown	Brown
OUTPUT	Brown	White/Brown	Green	White/Blue	Blue	White/Green	Orange	White/Orange

Cable between Mesh Panels

	1	2	3	4	5	6	7	8
INPUT	White/Orange	Orange	White/Green	Blue	White/Blue	Green	White/Brown	Brown
OUTPUT	Blue	White/Brown	White/Blue	White/Orange	White/Green	Brown	Orange	Green

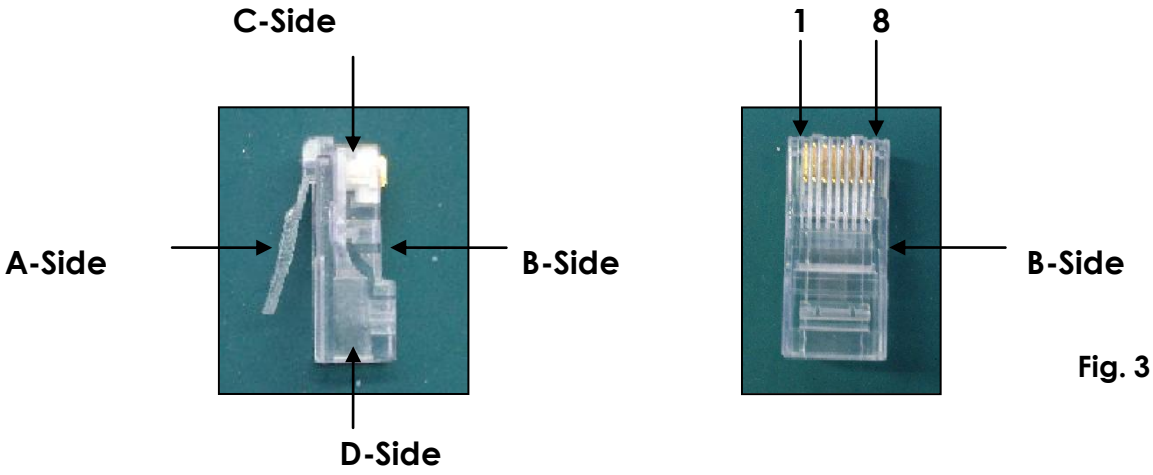


Fig. 3

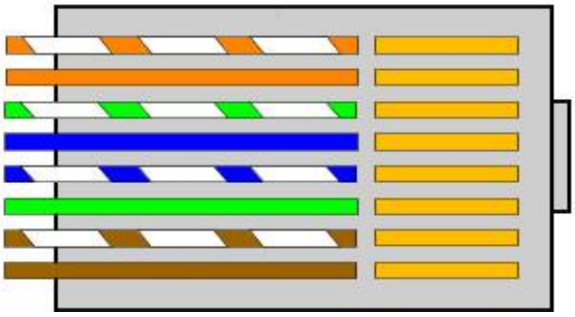
Making an additional cable from the computer to the Scan Board

A Standard NET CABLE cannot be used to replace the NET CABLE required to transmit the information for the LED Pixel Mesh.

Please follow the following instructions in order to create extra NET CABLE.

Take a standard net cable (Cat5/ 5E /6) and connect it to the RJ-45 connector just like displayed on the picture. The wires should now be colored as following:

1- white & orange
2- orange
3- white & green
4- blue
5- white & blue
6- green
7- white & brown
8- brown



RJ-45 Connector

Insert each wire into an RJ-45 connector with the white & orange wire connected to PIN 1, the orange wire connected to the second PIN, etc.
Both ends of the NET WIRE are connected in this way.

How to connect the Pixel Mesh

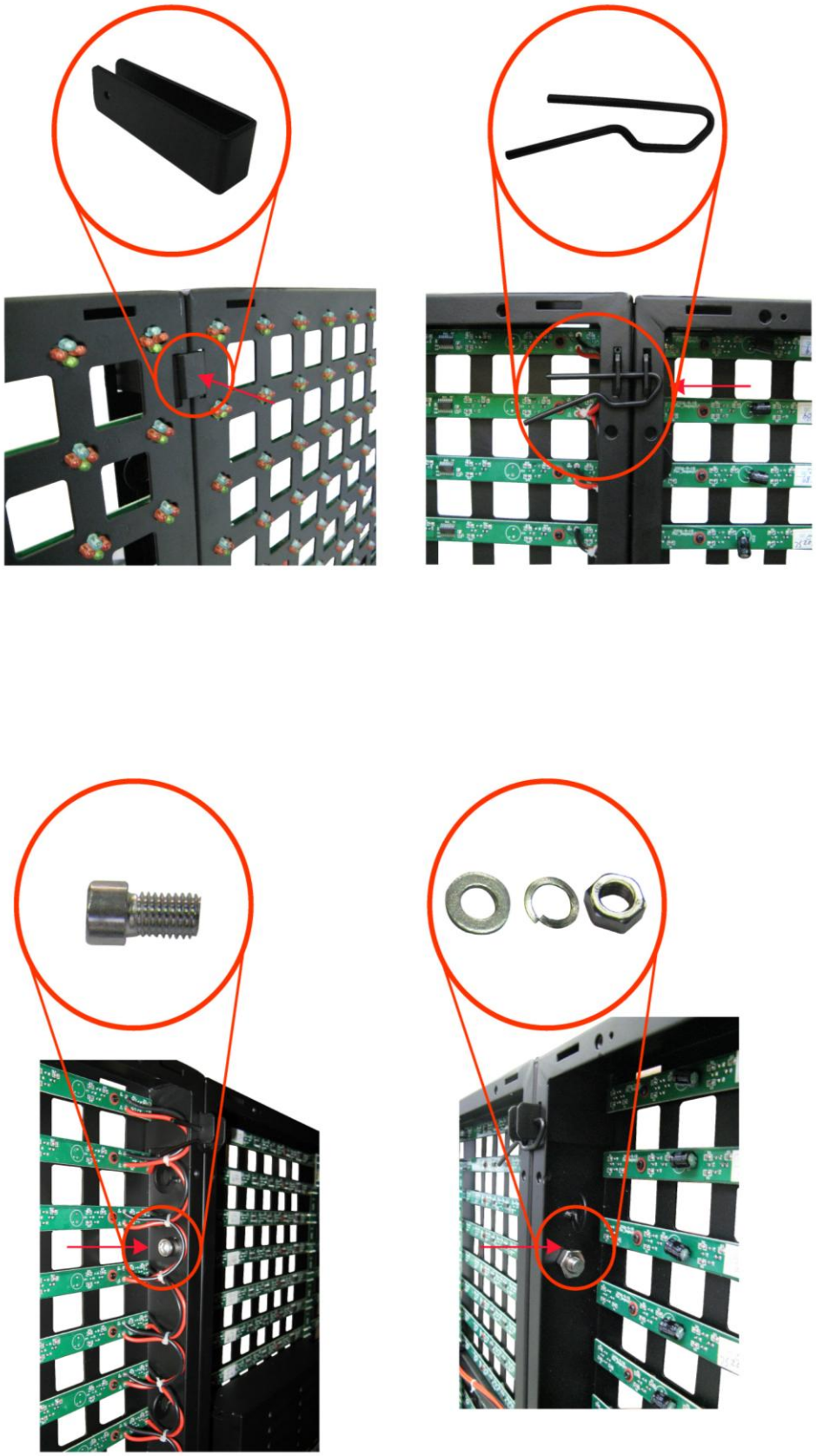


Fig. 4

Note:
Always make sure that all bolts are securely fastened.
Do not use on systems larger than 5,12 meters in height (8 panels)

IEC and Data Output Connections

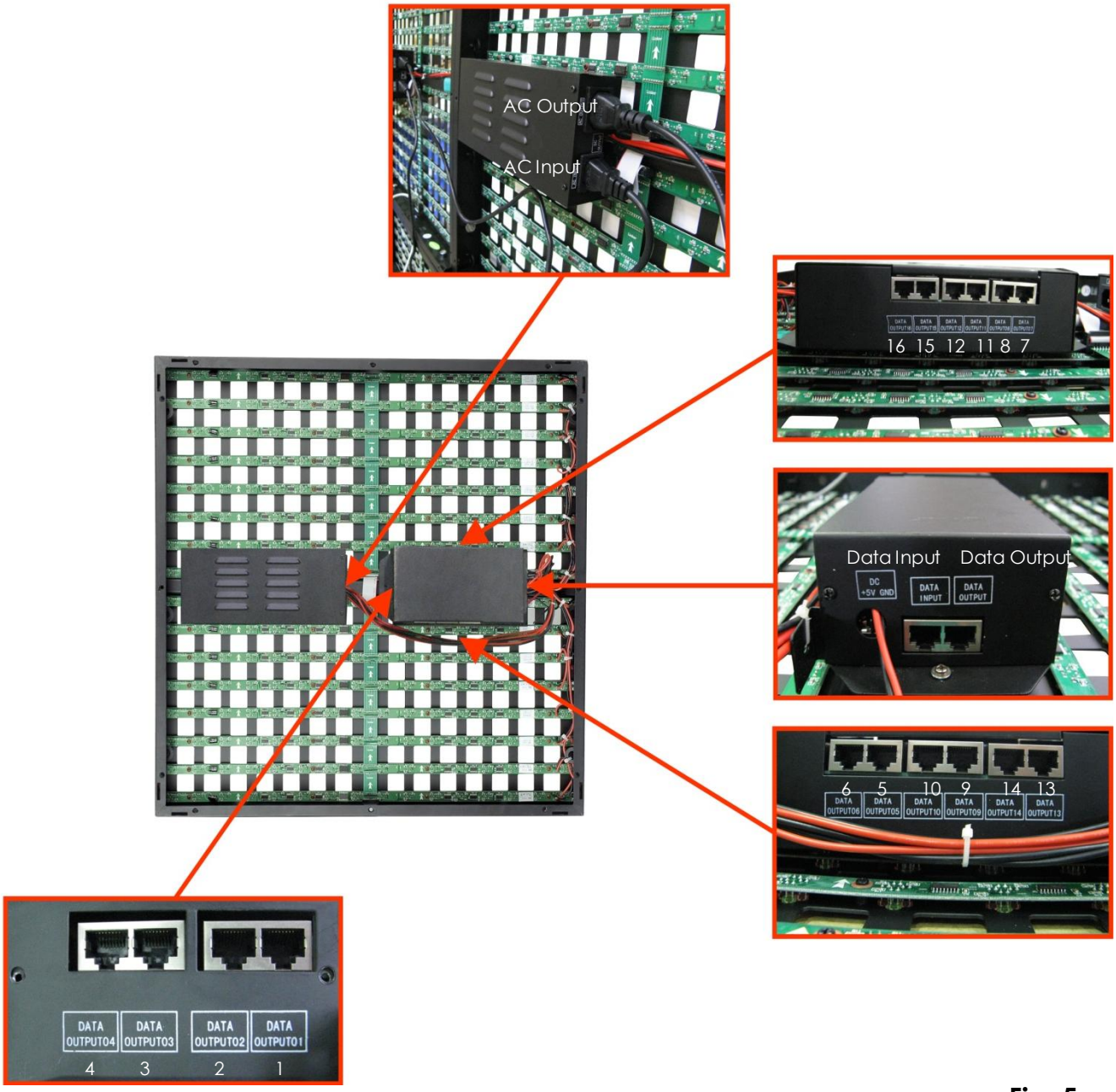


Fig. 5

Screen Control System Instruction

Sender card :

- Make sure the PC is switched off. Take anti-static precautions, otherwise the entire PC can become damaged.
- Install the sender card on the PCI slot of the PC;
- Connect the DVI Port of the transmission card and DVI Display Port by DVI Cable;
- Connect the PC host computer serial port and the transmission card RS232 serial port by serial wire.
- Start your PC.
- The green indicator light on the stage of twinkle status when the modules work normally.

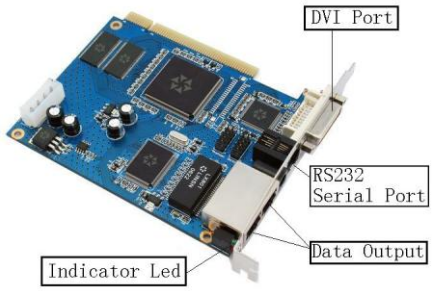


Fig. 6

PC Host Computer

- PC should contain a Graphic Card with a double output:
  - VGA + DVI output
  - DVI + DVI output
- We usually recommend to use "**GEFORCE Display Card" or "ATI Display Card"**, the operation system is WINDOWS XP.

System Connection Mode：

- DVI Cable: connect the DVI Port between the PC and sender card **(Fig. 7)**
- RS232 Serial Cable: connect the serial port between the PC and the sender card **(Fig. 8)**.
- SUPER CAT ISDN 8-Pin Cable: connect the sender card and receiving card with SUPER CAT ISDN 8-Pin Cable in order to achieve data transmission **(Fig. 9)**.

Fig. 7

Fig. 8

Fig. 9

System Connection Chart

- Installation the transmission card on the PCI Slot of the PC, connect the sender card and RS232 serial port by DVI Cable
- Connect the receiving card and PC with SUPER CAT ISDN Cable (**1**).
- Connect the receiver card and the screen modules with LAN cable the NET CABLE (**2**).
- Connect the receiver card to the Pixel Mesh Boards (**3**).

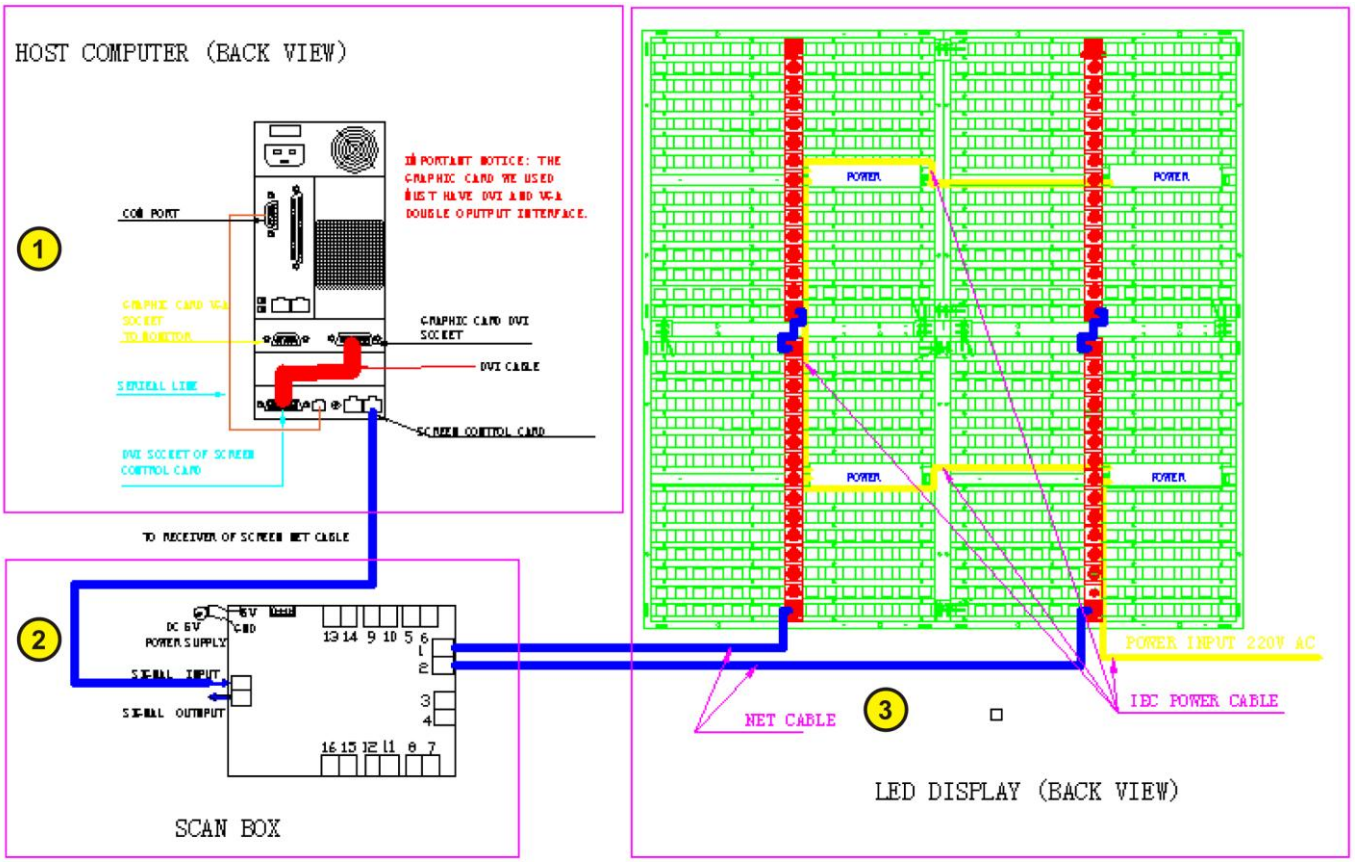


Fig. 10

Mounting System to LED Screen Connection

Note: These bolts only need to be removed when a LED Panel needs to be moved or serviced.
Each screen has to be fixed by its M6 holes on the side of each screen.
There are 8 M6 holes in total.

Front View

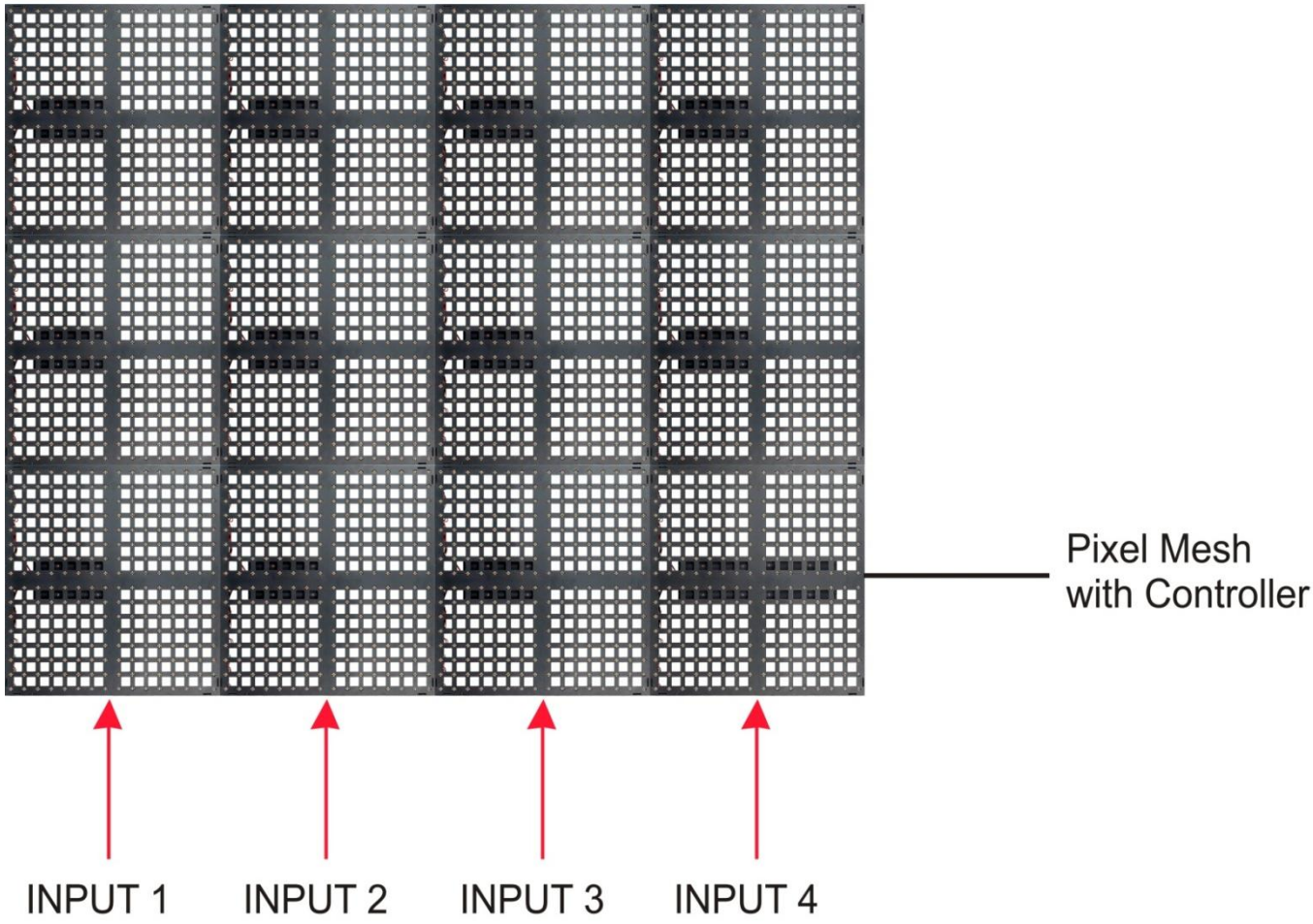
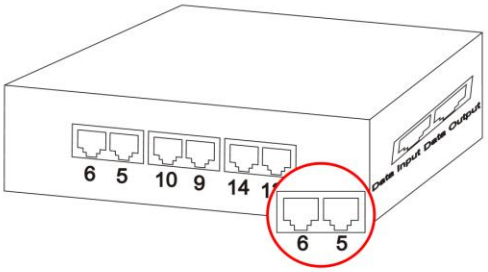
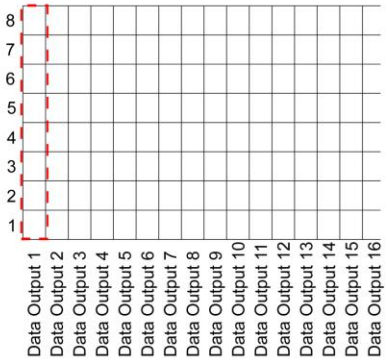
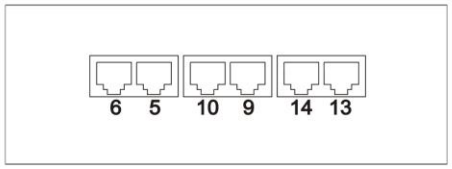


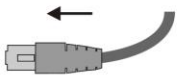
Fig. 11

Every driver contains 16 output ports. Each output port provides signal source to one vertical row of panels not exceeding 8 panels high.



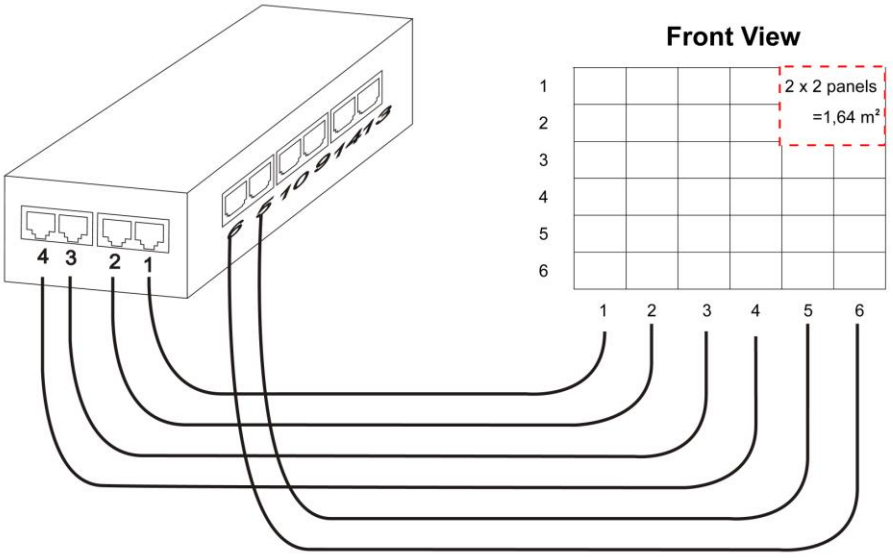






Backside

Example
If you want to use a video wall, please check the following connection diagram.



Each Output connector corresponds to a specific row number on the matrix.

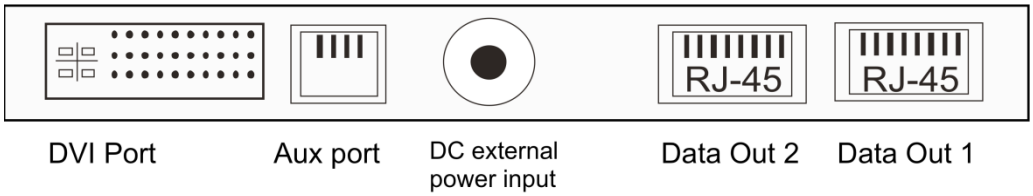
Backside

It is easy to calculate the required number of J output connectors you want to use, as long as you know the specific pixel resolution for your performance.

Number of Horizontal Lines (Rows) or Horizontal Pixels	Number of Panels Horizontal	Output Connections to use
16	1	Data Output 1
32	2	Data Output 1 ~ 2
48	3	Data Output 1 ~ 3
64	4	Data Output 1 ~ 4
80	5	Data Output 1 ~ 5
96	6	Data Output 1 ~ 6
112	7	Data Output 1 ~ 7
128	8	Data Output 1 ~ 8
144	9	Data Output 1 ~ 9
160	10	Data Output 1 ~ 10
176	11	Data Output 1 ~ 11
192	12	Data Output 1 ~ 12
208	13	Data Output 1 ~ 13
224	14	Data Output 1 ~ 14
240	15	Data Output 1 ~ 15
256	16	Data Output 1 ~ 16

Sender card

Install the sender card in an available PCI slot in your computer. The sender card is the interface between your PC, LED Studio and the LED Pixel Mesh. You must use the DVI cable provided to connect from the computers DVI output to the DVI port on the sender card.



Data Out 1 & Data Out 2 connectors
The 2 network output ports transmit 128 rows or horizontal lines. Output 1 transmits rows/lines 1 throug 128. output 2 transmits rows/lines 129 through 256.

Aux Port
This is a standard 6-pin telephone connector. A cable is provided that connects from the 9-pin DIN R-232 port to the AUX port on the sender card. This port allows control of the R variable, gray scale, DV Wall matrix active area, and matrix lock and matrix range.

DC External Power Input
This input takes the 5V power supply provided. It is only used if the sender card will be operated eternally of the computer.

Backside view

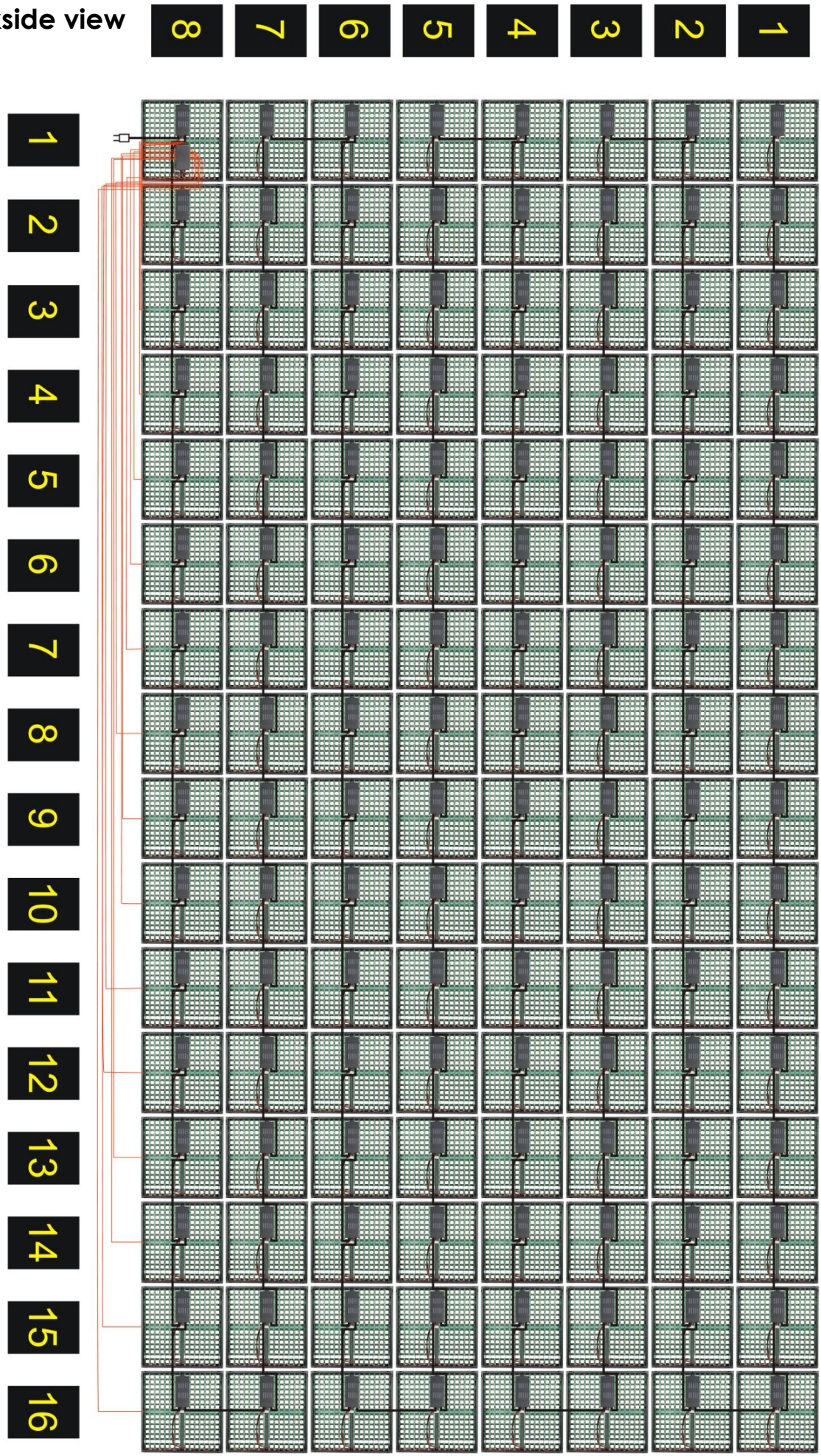


Fig. 12

Sender card installation

1) Turn off your computer and disconnect from the powersource. Always take these precautions before opening the case and adding/removing components.
2) Insert the sender card into an available PCI slot in your computer.
3) Connect the DVI output from your computer's display card to the DVI input on the sender card, Using the DVI signal cable provided.
4) Connect your computer's serial RS232 (also known as COM port) connector to the 6-pin telephone connector of the sender card, using the RS232 signal cable provided.
5) Connect the RJ45 OUT 1 connector to the controller's Net IN connector with the provided net cable to display rows 1 through 128.
6) When you want to display 256 row lines, connect the OUT 2 to a second controller.
7) Make sure that all connections are correctly connected, before applying power to the entire system.
8) In order to test the system successfully, it will be necessary to address the controllers correctly.
9) Once the controllers are assigned, turn on the computer and test the system.

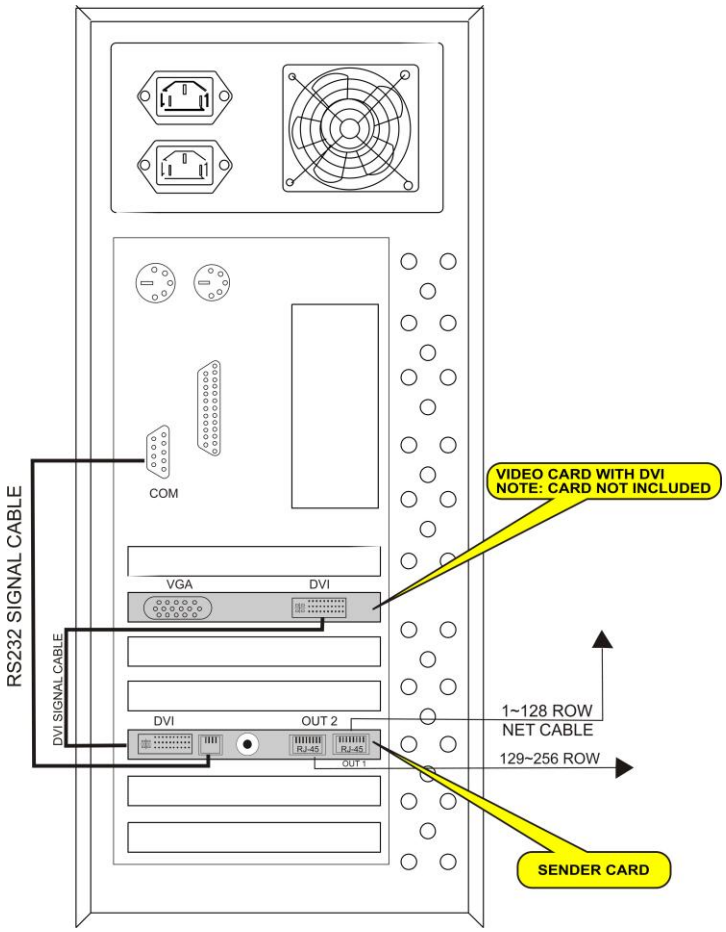


Fig. 13

Warning
When your PC starts up and your screen stays black after connecting the sender card, turn off your computer immediately and disconnect the DVI cable from the sender card. Reboot your PC and when Windows has loaded, reconnect the DVI cable.

LED Vision Studio MX Control System Installation

• Put the **LED Vision Studio MX** CD in the PC and then enter the installation setup.
If not, please double click the CD, choose **LED Vision Studio MX Installation** to start the installation.
The Display shows **LED Vision Studio MX** (see Figure below).

LED Vision Studio MX
Welcome to the Vision Studio MX setup program. This program will install LED Vision Studio onto your computer.
It is strongly recommended that you exit all other programs and close any open windows before continuing the setup.
Click Cancel below to quit Setup and close any programs you may have running. Click Next to continue with the Setup.
WARNING: This program is protected by international copyright law and relevant treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in sever civil and criminal penalties, and violators will be prosecuted to the maximum extent under law.
Next>
Cancel

• The following icon will appear on the desktop after finshing the entire installation:

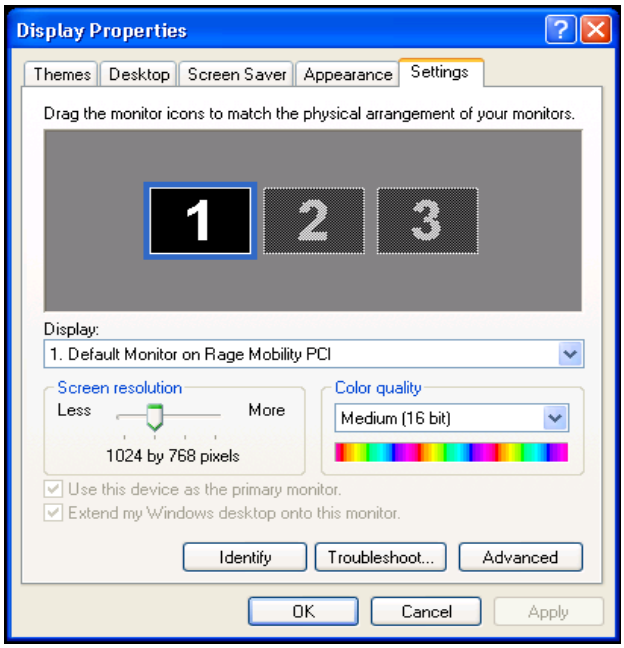
• Double click the Chart Icon to start the following screen :

• For detailed information of the " LED Vision Studio MX" please refer to user's manual.

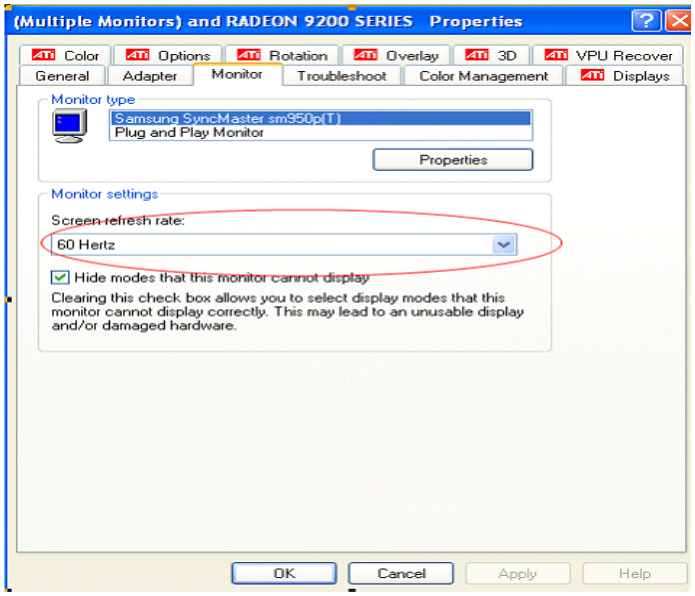
Display Card Settings

ATI Display Card Settings

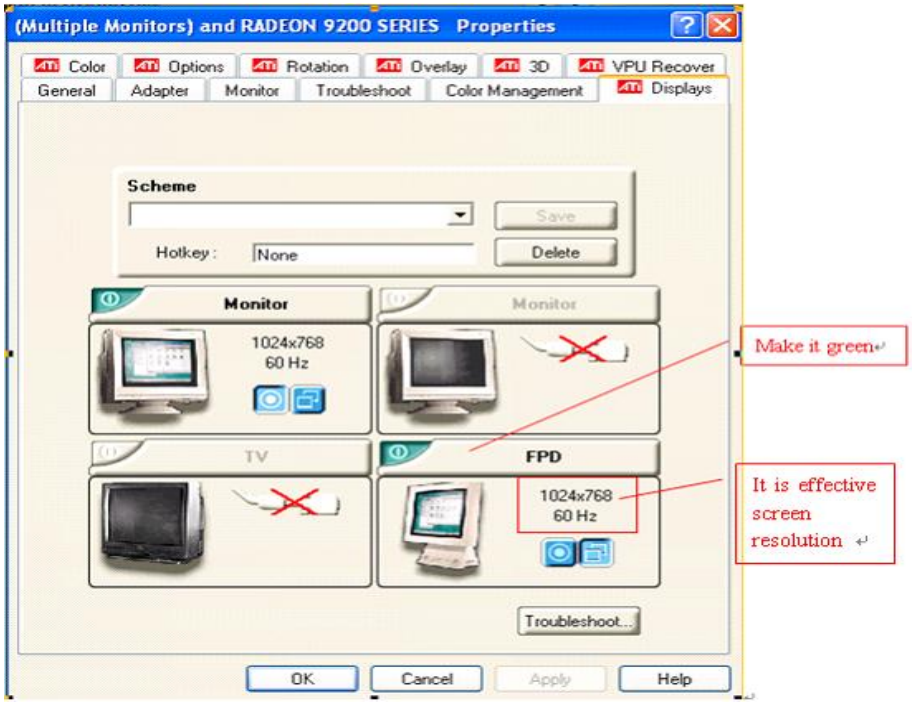
1) Press the right MOUSE button, when standing on a blank desktop.
Go to Properties, and set the screen resolution to 1024 x 768 pixels :



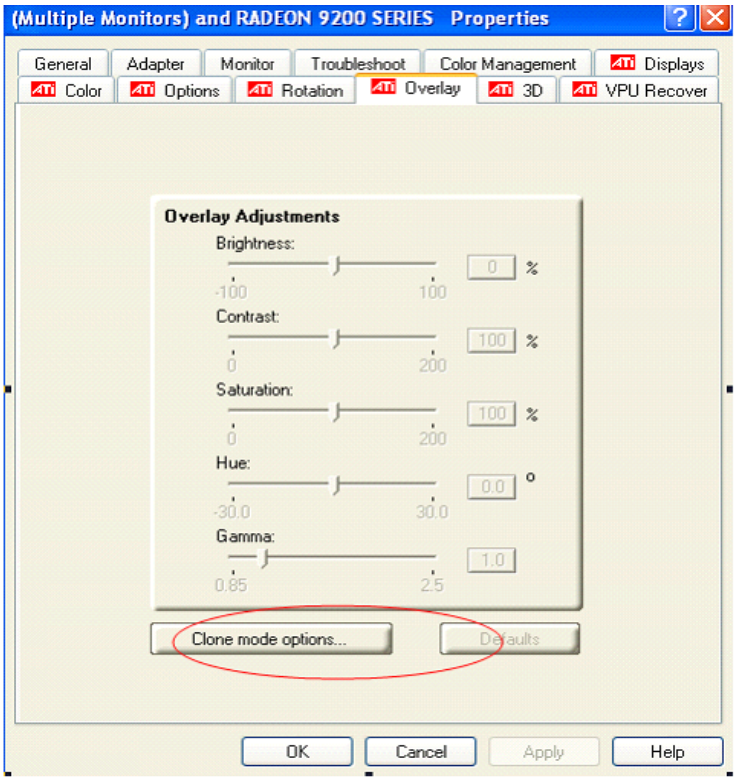
2) Press **Advanced** to set the refresh rate of the monitor to 60HZ :



3) Press the Display options and choose FPD, button will turn green:

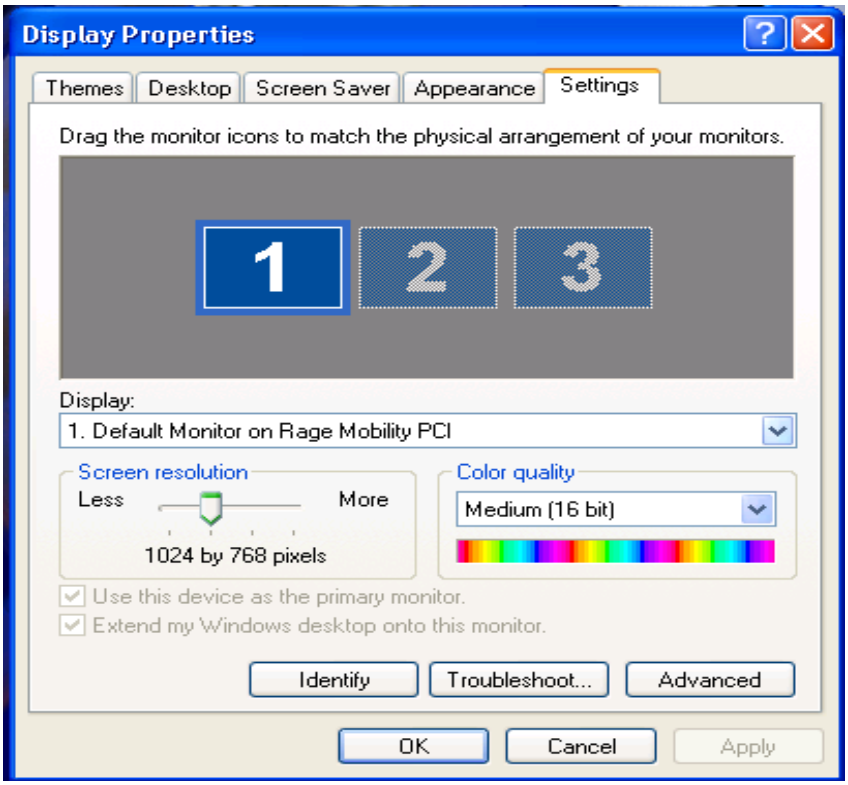


4) Press **cover** options and choose **copy mode options** in the new popup screen to setup **all the same**:

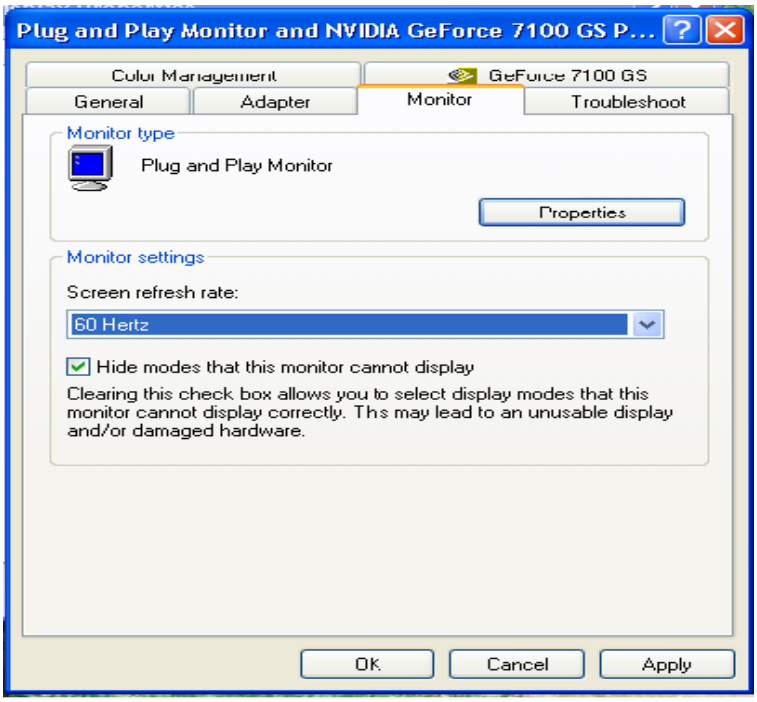


GEFORCE Display Card Settings

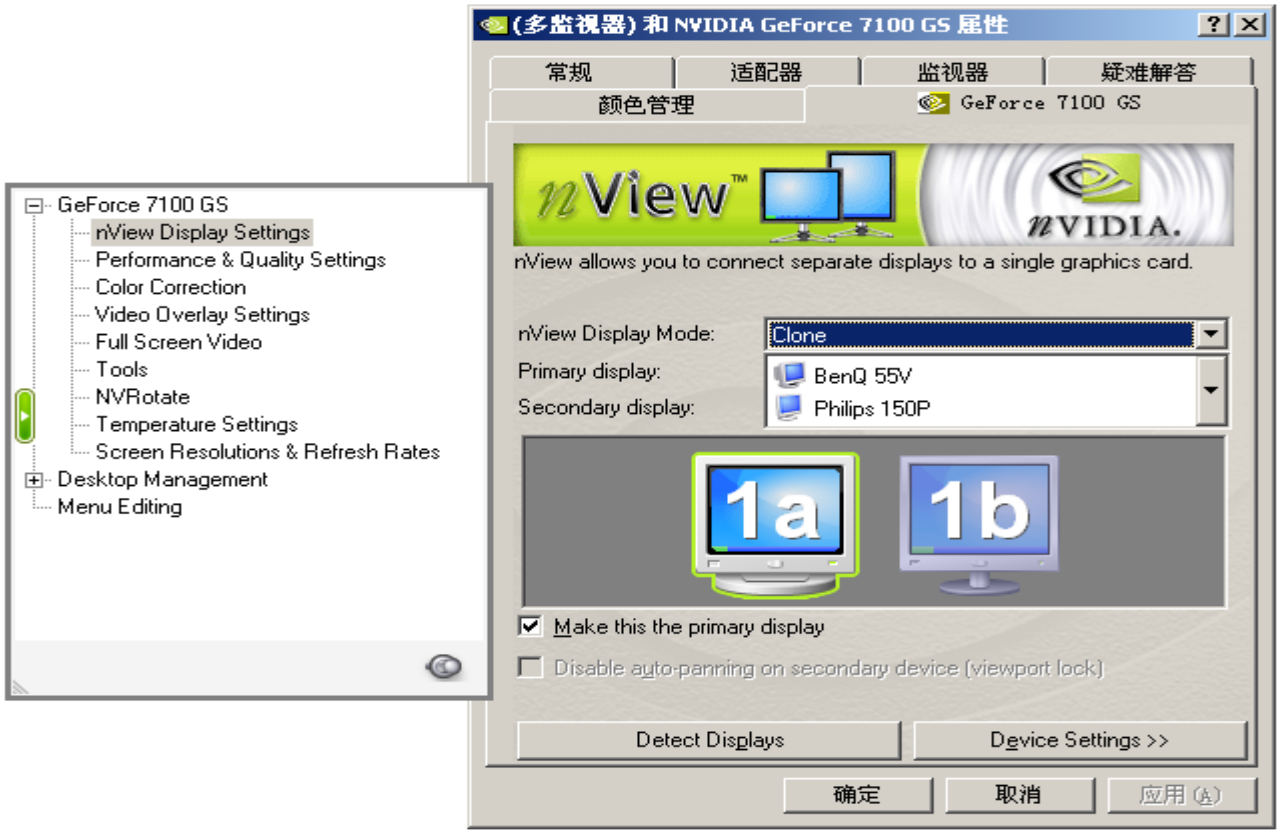
1) Press the right MOUSE button, when standing on a blank desktop.
Go to Properties, and set the screen resolution to 1024 x 768 pixels :



2) Press **Advanced** to set the refresh rate of the monitor to 60HZ :



3) Press the GeForce 7100 GS options, setting the nView. Choose the nView Display Settings menu, and press **Clone** :



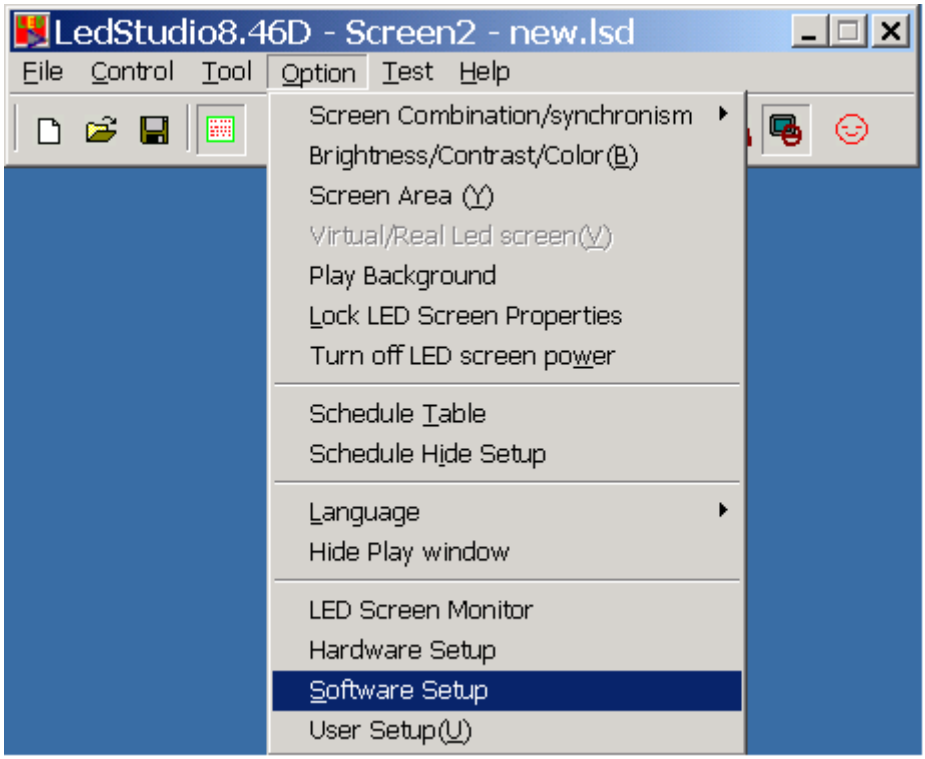
Choose **Application** and then **Confirm**. Now exit your Properties setup.

Receiver Card Configuration

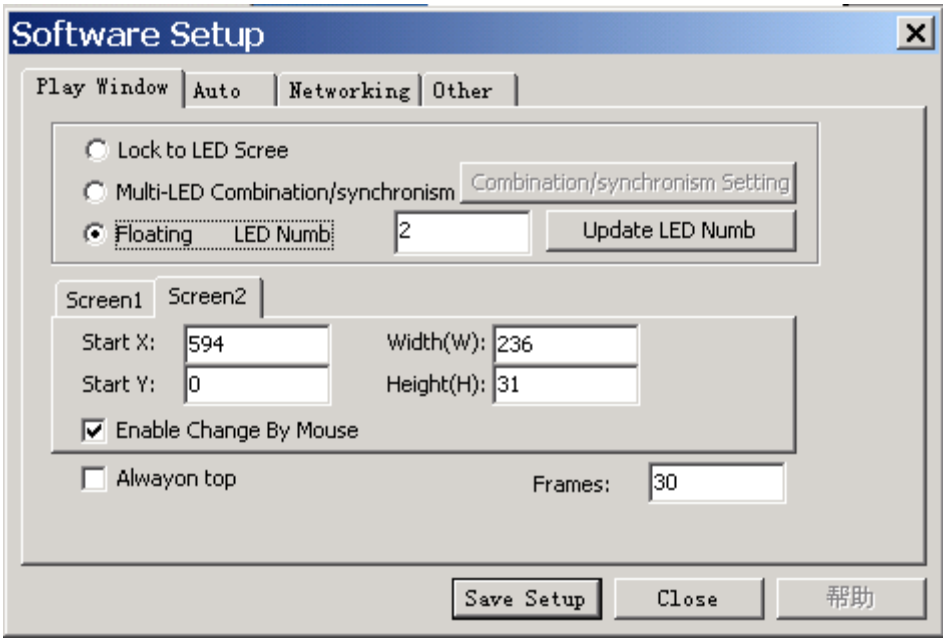
Configure the Receiver Card after you have finished the LED Studio setup by installing main control card, receiving card, screen and connecting signal wire and power supply wire.
Generally speaking, users do not need to configure the receiving card because the supplier has already set it before deliving the goods.

The Configuration mode for the Receiving Card is, as follows:

1) Press **Software Setup** on the menu

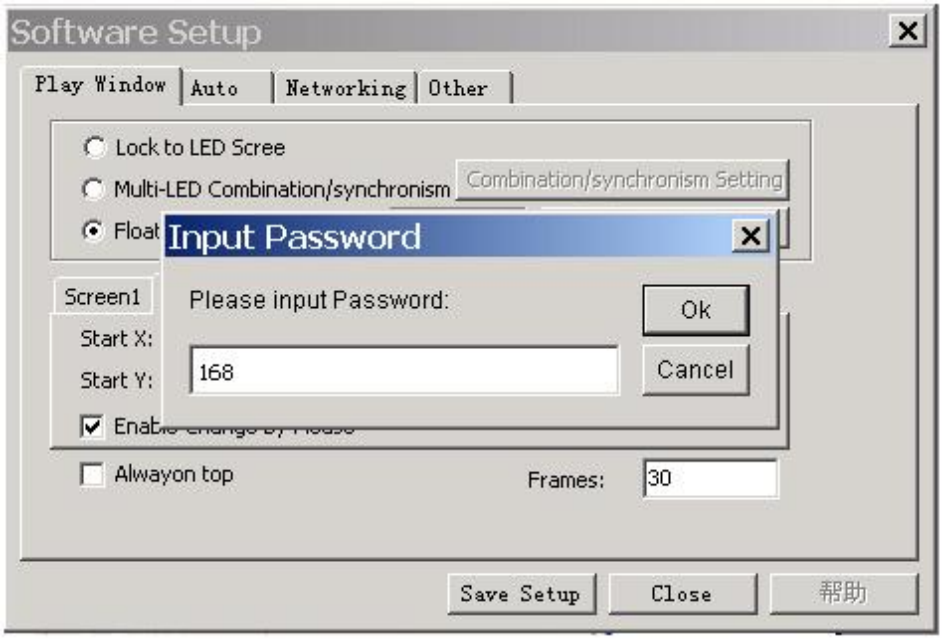


2) Enter the screen of software setup.

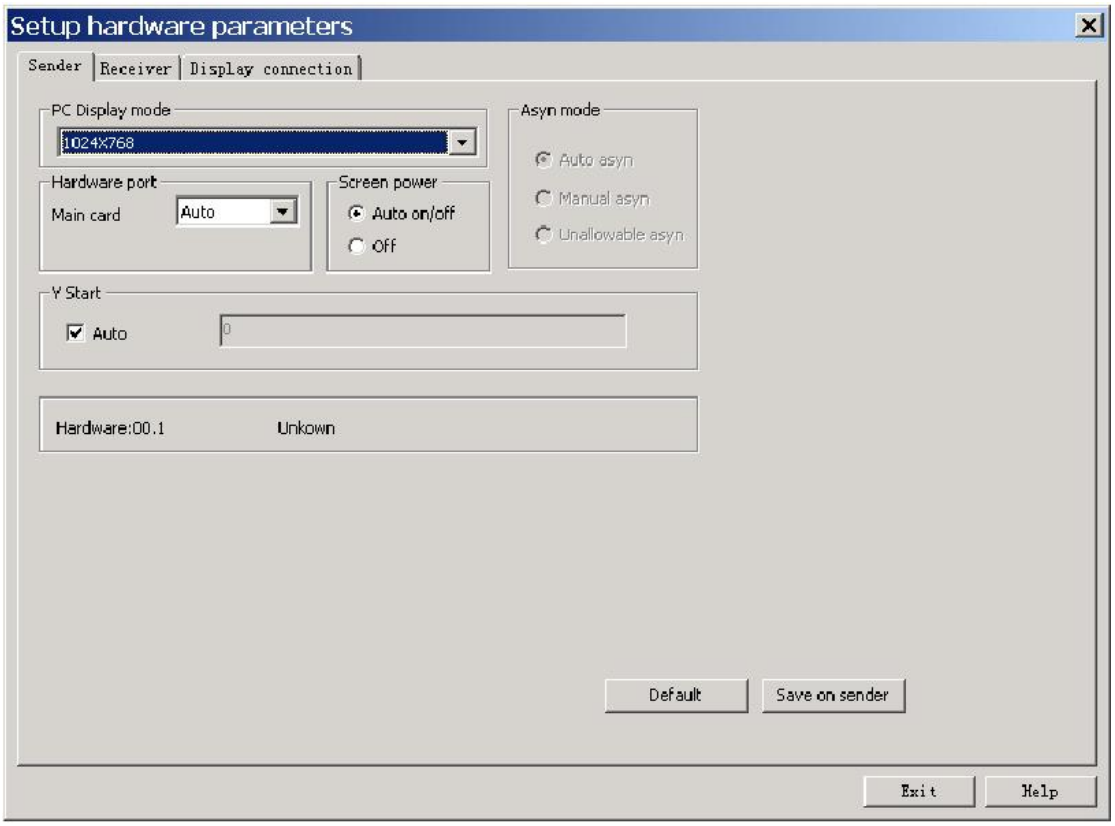


3) Then type **linsn** on the keyboard and press enter.
Note: there is no indication on the screen.

After this a popup appears on the screen, requesting a password.
You should enter the password in the popup. The password is"168".
Then press OK.



If you have entered the correct password, the following hardware-setup appears on the screen:



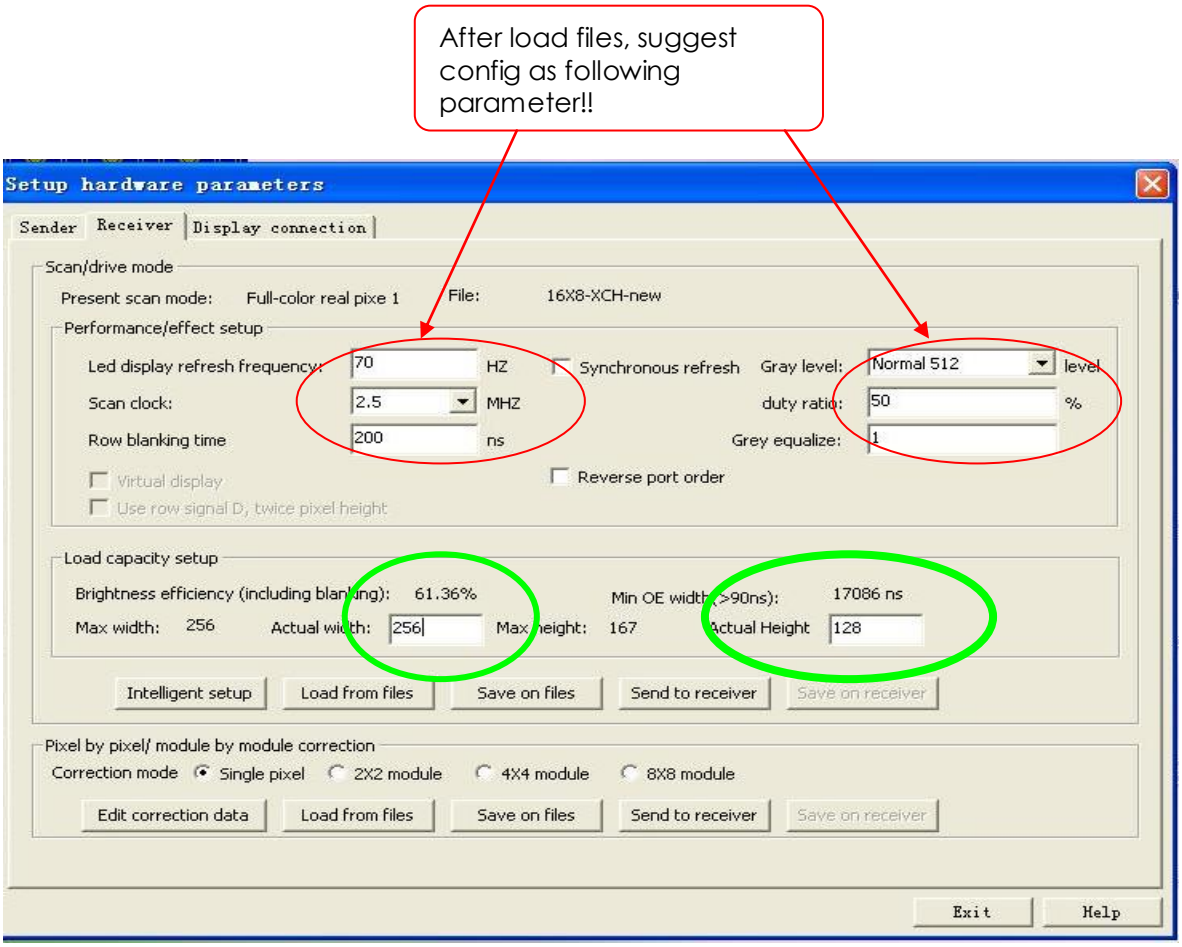
Sender Setup
The Sender Setup is very simple, you do not need to do any work, if your display operation remains below 1024×768 mode. Otherwise you should choose the display mode and then press "Save to the Sender" and all will be ok.

Receiver Setup

The setup has already been perfected, so users do not need to do any work on the Receiver Setup. The configuration file is included with the LED Pixel Mesh: **Pixel Mesh.RCG**

Users can refer to the following steps if they want to alter the configuration：

Press "Load from files" on the Receiver Setup,



Then press "send to receiver" and "save on receiver" step by step, then input "256" in actual width, and "128" in actual height, please see above green circle.

The Configuration of Receiver has already done after all that setup is complete.

Maintenance

The operator has to make sure that safety-relating and machine-technical installations are to be inspected by an expert after every four years in the course of an acceptance test.
The operator has to make sure that safety-relating and machine-technical installations are to be inspected by a skilled person once a year.

The following points have to be considered during the inspection:
1. All screws used for installing the device or parts of the device have to be tightly connected and must not be corroded.
2. There may not be any deformations on housings, fixations and installation spots.
3. Mechanically moving parts like axles, eyes and others may not show any traces of wearing.
4. The electric power supply cables must not show any damages or material fatigue.

The DMT LED Pixel Mesh requires almost no maintenance. However, you should keep the unit clean. Otherwise, the fixture's light-output will be significantly reduced. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Wipe lens clean with glass cleaner and a soft cloth. Do not use alcohol or solvents. Keep connections clean. Disconnect electric power, and then wipe the connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

Troubleshooting

Please check system according to the following steps if the LED Screen can not work normally after finishing the connection and the power on :

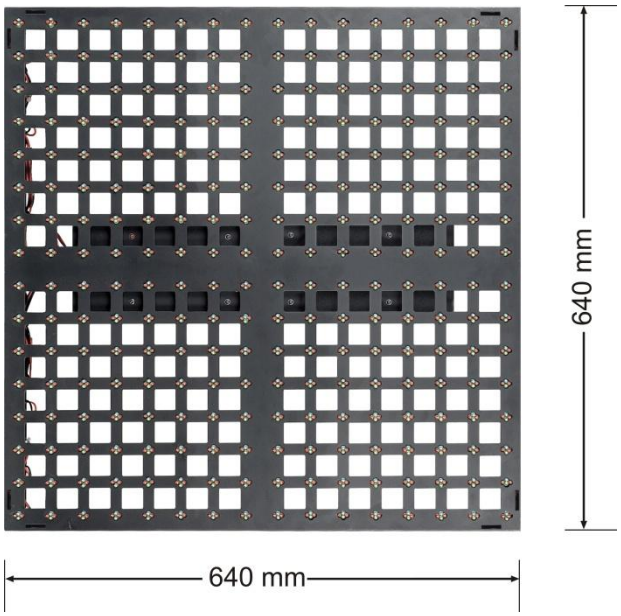
Trouble Description	Trouble Analysis	Solution
Whole screen Blackout	The power supply does not work	Power on
	LED control software does not turn on.	Setting control software
	Transmission line does not connect well	Reconnect transmission line
	Display shows black color	Reset the desktop menu
	Frame module power supply does not connect well or voltage does not match	Make sure the voltage above 4.75V
	Connecting wire between module and scanning board are above stated length	Cut off the cable line
Screen twinkle	Data wire above the stated length or some trouble with cable wire	Ensure the cable wire quality
	Connect data wire does not fasten well	Re-plug
Control system out of control	Unit board has some trouble	Check the module
	Display card setting does not correct	Reset the display card
	Set the LED control software locked	Set the control software unlock
	Do not increase power supply when increasing power supply to the module	Add power source to scanning controller

If you are unable to determine the cause of the problem, do not open the LED Pixel Mesh, as this may damage the unit and the warranty will become void. Please return the device to your DMT dealer.

Product Specification

Model: DMT LED Pixel Mesh
The LED Pixel Mesh is a fabulous LED Lighteffect from DMT.

- Average Lifespan: 50,000~100,000hrs
- Mounting system has rigging points and flexible configurations
- Rated Power: 75W
- Current: 0,33A
- Cooling: Direct air convection
- LED/Pixel: 2xRED/1XGREEN/1XBLUE
- Module size: 640mm×640mm×65mm (LxWxH)
- Pixel/Unit：16*16
- Pixel Pitch：40mm
- Pixel Density（dot/ m2）：625
- Pixel composition：2R1G1B 4Φ5 oval LED
- Brightness（cd/ m2）：1300
- Optimal viewing distance（m）：60
- Module peak value power（≤W）：75
- Module average power（≤W）：40
- Module weight(kg)：10
- Scanning mode：Static scan
- Viewing angle：120°（60° horizontally and vertically）
- Driven voltage(V)：4.5～5.5
- Gray scale：256 levels respectively
- Frame change speed：≥60（frame/second）
- Control mode：In step with the computer monitor
- Blind spot rate：≤0.0002
- Operating voltage：AC220V±15% 47～64HZ
- Control distance(m)：<130
- Temperature environment：-10℃～50℃
- Humidity environment：10%～90%RH
- Indoor use only
- Dimensions: 640x640x65mm (LxWxH)
- Weight 101150: Pixel Mesh 7,78 kg
- Weight 101151: Pixel Mesh with controller 8,82 kg



Design and product specifications are subject to change without prior notice.

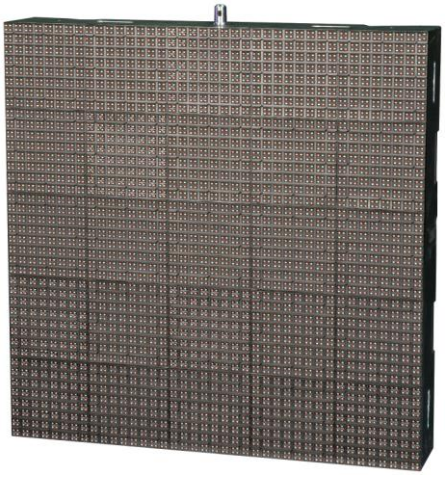
CE

Website: www.DutchMediaTools.info
Email: service@highlite.nl

Other DMT LED Products:

Pixelscreen Module P16 (101310)

Pixelscreen Module P25 (101300)



Media Spinner (40169)

Video Distributor VDA-15 (101202)

Video Distributor VD-15 (101201)

VGA & Audio Distributor/Amplifier (101220)

DUTCH MEDIA TOOLS

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